

NATIONAL DEFENSE AND THE ENGINEER

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SUMMARY

In a comparatively short time national defense has become an important factor in the lives of Americans. The engineering profession has felt the impact of this urgent national factor for it has affected the engineer by greatly increasing the demand for engineers and by increasing the prestige of the engineering profession. The demand for engineers is becoming serious because of the limited supply of engineers. While America has been developing engineering for the industrial use the totalitarian states have used engineering for the production of implements of war. Thus the task imposed upon the engineering profession will be superhuman. American engineering which has made us industrially powerful can surely demonstrate its superiority in the arts of war as it has in the arts of peace.

NATIONAL DEFENSE AND THE ENGINEER

Defense, defense of America. That is the all important task before America today. America has awakened to the fact that its defenses are inadequate. The preparedness drive was initiated by President Roosevelt on May 16, 1941 by a message to Congress in which he asked for an appropriation of the sum of \$896,000,000. As reports from Europe became more and more serious these amounts were subsequently stepped up until today, April 1941, they reach the staggering total of \$32,000,000,000. in appropriations and authorizations for the defense of America.

THE EFFECT ON THE ENGINEER

While we have been developing the potentialities of engineering to further the industrial prosperity of America, in the totalitarian states these potentialities have been focused on the production of weapons of destruction. Thus American engineering will have to accomplish by superhuman effort in months the task that took years to be accomplished in the totalitarian countries. How will this affect the engineer? First, the demand for engineers will be greater than ever before in the history of the United States. This is true because modern war is no longer a war of man against man but rather of machine against machine. To produce a great defense army and navy will require the services of every engineer available because engineers cannot be produced quickly but become qualified

for the requirements of their work only through a long period of educational preparation followed by years of practical experience. Second, probably the most important effect on the engineering profession will be to increase its future prestige and importance. For while the demand for engineers may cease when the present crisis ends, the present crisis is dramatically presenting to the people of America the importance and usefulness of the engineer.

THE SUPPLY OF ENGINEERS

What are we going to do to get enough engineers to assure maintaining the production required in the defense program? We are now overdrawing our available supply of engineers. Not only are all available experienced engineers now employed, but the senior graduating engineering students are practically all engaged for positions in industry or for army or navy work immediately upon graduation. As to the future, present indications are such as to give importance to the question of what to plan for the men now in their junior years at engineering college. The engineering colleges are now considering a program for accelerating the education of student engineers by omitting summer vacation periods.

MAINTAINING THE SUPPLY OF ENGINEERS

What are we going to do to assure the necessary and continuing supply of engineers? First and most important, not knowing for how long the acutely vital defense program must continue, we must be prepared to augment our

present supply of engineers through the medium of a program of education and training of qualified young men. Next, because of the present great preponderance of demand over supply, it is our first duty to assure that men qualified to do engineering work are not assigned to or permitted to assume defense duties that can be performed by persons not qualified by education and training to do engineering work.

American engineering, aided by American research, has made us industrially by far the most powerful nation in the world. That same engineering ability can surely demonstrate its superiority in the arts of war as it already has in the arts of peace.

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